RCI-7 - Distributed Generation with Renewable Energy Applications

Benefit/Cost of Reducing CO_2e:

Arizona: 10 MMt between 2007-2020; 1.28% of 2020 emissions; $31/ton
Colorado: Medium reduction potential; Medium cost
Oregon: 0.54 MMt between 2007-2025; 0.6% of 2025 emissions; Cost effective
N. Carolina: 29 MMt between 2007-2020; 1.4% of 2020 emissions; $1/ton
New Mexico: 1.6 MMt between 2007-2020; 0.4% of 2020 emissions; $105/ton

Assessment: High Priority. Bin B. 17 out of 22 votes.

Both the BRAC and the SWG felt that the level of difficulty would be higher than the Bin A originally recommended by the sector group. There was also a feeling that the cost/benefits needed more investigation.

Distributed renewable energy resources have the potential to cut GHG emissions. Although initial costs can be a barrier, they can be shared among many parties through utility rebates, tax incentives, and other measures. Importantly, there are no transmission and distribution losses associated with these resources.

This policy option consists of state and/or utility programs aimed at increasing the installation of distributed renewable energy, such as photovoltaic panels and small wind turbines. This option could include incentive programs and other measures that help make distributed renewables more competitive with conventional resources. The state could also decide to support research and development funding of promising renewable technologies.[11]

Net metering is a strategy for providing electric power generation from renewable sources. It uses a single meter to measure the difference between the total generation and total consumption of electricity by customers with small generating facilities by allowing the meter to turn backward. Net metering can increase the economic value of small renewable energy technologies for customers. It allows the customers to use the utility grid to "bank" their energy: producing electricity at one time and consuming it at another time. This form of energy exchange is particularly ideal for renewable energy technologies. In many states small-scale electricity generated from renewable energy sources is sold back to the electric utility at retail prices rather than cost.[12] Utilities in at least 41 states have net metering programs.

Utah enacted legislation in 2002 requiring all investor-owned electric and cooperative - but not municipal - utilities to offer net metering to their customers. Eligible generating systems include fuel cells, solar, wind and hydropower systems with a maximum capacity of 25 kilowatts (kW). Total participation in the program is limited to 0.1% of the cumulative generating capacity of each utility's peak demand in 2001.

[11] See: http://www.nmclimatechange.us/ewebeditpro/items/O117F10150.pdf
[12] 2000 Utah Office of Energy and Resource Planning (OERP) report

If a customer generates more electricity than he uses during a billing period, then the utility must credit him for the net excess generation (NEG) at a rate equal to the utility's avoided cost or higher. NEG is carried over to the customer's next monthly bill until the end of each calendar year, at which point any remaining NEG is granted to the utility. A utility may not levy additional charges or fees on net-metered customers, unless it is authorized to do so by the Utah Public Service Commission. Utilities may not require additional liability insurance for systems that meet applicable local and national standards regarding electrical and fire safety, power quality and interconnection requirements.

In February 2007, the Utah Division of Public Utilities published a report on the status of the state's net-metering program.[13] This publication included a discussion of best practices adopted by other states, program barriers, and recommendations for improvement. Rocky Mountain Power's interconnection agreement and application for net metering service is available online.[14]

[13] http://www.psc.state.ut.us/misc/06docs/0699903/NetMeteringReport.pdf
[14] http://www.utahpower.net/Navigation/Navigation552.html